

COMPATIBILITY DETERMINATION
for
HABITAT PROTECTION AGREEMENT- KARLUK AND STURGEON RIVERS,
KODIAK NWR

November 7, 2001

Use:

Implementation of a Habitat Protection Agreement among Koniag Inc., the United States, acting through the U.S. Fish and Wildlife Service, and the State of Alaska regarding the Karluk and Sturgeon River drainages. The agreement involves Alaska Native Settlement Claims Act (ANSCA) 22(g) lands within the exterior boundaries of Kodiak National Wildlife Refuge. This Habitat Protection Agreement incorporates a "Conservation Easement"(Appendix A) and "Camp Island Limited Development Easement"(Appendix B) which describe a variety of uses that would be permitted in conjunction with the implementation of a "Master Agreement;" see Figure 1 for a general map of included lands.

Refuge Name:

Kodiak National Wildlife Refuge, Kodiak Island; administered by the U.S. Fish and Wildlife Service.

Establishment and Acquisition Authority:

The Kodiak Archipelago was home to what was most likely the densest human population in Alaska prior to European contact, beginning with the first clearly demonstrated human occupations around 7,500 years ago. The first permanent European presence on the island was the Russian artel at Three Saints Bay, established in 1784. After being destroyed by a tidal wave, this settlement relocated to the present location of the city of Kodiak in 1792, which became, and remains, the center of population on the Archipelago.

In the late 1800s and early 1900s major changes in human activity and associated development increased significantly. Canneries were built to process fish and shellfish; cattle and sheep were introduced to the Island. By the 1930s, the interaction of the native brown bear with the livestock was resulting in significant loss of livestock and as a result, in the late 1930s government hunters were brought in to reduce these losses. About this same time conservation groups became concerned for the welfare of the brown bear and advocated establishment of a refuge on Kodiak Island.

On August 19, 1941, President Franklin D. Roosevelt signed Executive Order 8857 establishing the Kodiak National Wildlife Refuge " * * * for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife on Uganik and Kodiak Islands * * * ." The refuge thus became a part of the National Wildlife Refuge System, managed by the U.S. Fish and Wildlife Service. The original Executive Order withdrew about 1.957 million acres from

unreserved public domain on Kodiak and Uganik islands. The Refuge encompassed all of Uganik Island and most of the southwest portion of Kodiak Island except for the Karluk Indian Reservation. In addition, a one-mile wide shoreline strip remained open to public entry. Grazing of livestock in other areas of Kodiak Island, however, led to major bear/cattle conflicts. To resolve this issue, Interior Secretary Fred A. Seaton signed Public Land Order 1634 on May 9, 1958. This Order readjusted the refuge boundary and closed the mile-wide shoreline strip to the land laws in exchange for reclassifying the Shearwater and Kupreanof peninsulas as unreserved public domain. The new refuge boundary extended from Viekoda Bay on the northwest side of the island along a mountainous ridge to the head of Kiliuda Bay on the east side. This effectively separated the refuge from cattle grazing and other incompatible uses, but reduced the refuge to approximately 1.82 million acres.

The Alaska Native Claims Settlement Act (ANCSA) was enacted in 1971 to settle aboriginal land claims of Alaska's Natives by providing land and money to extinguish land claims. As part of the settlement, approximately 310,000 acres of Kodiak Refuge lands were to be conveyed, under Section 12 of ANCSA, to Native village corporations. Section 22(g) of the Act contained a provision that " * * * such lands remain subject to the laws and regulations governing use and development of such Refuge."

In December 1980, President Jimmy Carter signed into law the Alaska National Interest Lands Conservation Act (16 U.S.C. 140hh-3233, 43 U.S.C. 1602-1784; ANILCA). This act, among other things, redesignated Kodiak National Wildlife Refuge and expanded the purposes of the refuge beyond those identified in the original establishing order of 1941. ANILCA also added approximately 50,000 acres of public lands on Afognak and Ban islands to the Refuge. These lands were previously part of Chugach National Forest, administered by the U.S. Forest Service.

The lands subject to this "Conservation Easement" and "Camp Island Limited Development Easement" were deeded to the Koniag Native Corporation with specific restrictions, called covenants, on their sale and use. On October 18, 2000 final "Compatibility Regulations" pursuant to the National Wildlife Refuge System Improvement Act of 1997 went into effect. The Code of Federal Regulations, 50 CFR 25.21(b)(1), states that compatibility determinations will be completed for uses of ANSCA 22(g) lands.

The actions addressed in this document are variable in time, scope, and affect. There are three distinct categories of land affected; refuge lands, Koniag lands where management will be turned over to FWS, and Koniag lands where Koniag reserves significant rights and management authority. Some actions may address only one category of land, while others may address all three categories. For example, while Koniag retains limited development of lands at Camp Island, the uses associated with that development may affect Koniag managed lands in the bear viewing program at Thumb, Koniag lands administered by FWS beyond 1/2 mile of the Karluk Lake shoreline, and Refuge lands and resources. Alternatively, commercial guiding operations for fishing on the Karluk River may only affect the Koniag managed lands.

Rights conveyed in the Conservation Easement and Camp Island Limited Development Easement by Koniag to FWS shall transfer on the effective date of those easements. The effects of actions taken pursuant to the Master Agreement on these lands, and adjacent refuge lands, will

be considered as to how those actions would affect refuge resources.

Koniag has significant retained rights and authority within one half (1/2) mile of Karluk River and Karluk Lake, but may transfer those rights to the FWS at some time in the future. During the time that Koniag retains these rights or transfers these rights to another private entity, their actions will be considered as to their affect on resources of adjacent lands owned or administered by FWS and in compliance with the terms of the Conservation Easement.

Any future proposed actions not included in this analysis will be subject to a separate compatibility determination to be prepared at the time specific actions are proposed. That compatibility determination will consider the affect on the interests in land being affected at that time.

Refuge Purposes:

Section 303(5)(B) of ANILCA states: The purposes for which the Kodiak National Wildlife Refuge is established and shall be managed include;

- (i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, Kodiak brown bears, salmonides, sea otters, sea lions, and other marine mammals and migratory birds;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in subparagraph (i), water quality and necessary water quantity within the refuge.

Per ANILCA Section 305, these purposes supplement rather than extinguish the purposes outlined in the 1941 Executive Order establishing the refuge " * * * for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife on Uganik and Kodiak Islands * * *."

National Wildlife Refuge System Mission:

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

The National Wildlife Refuge System mission will not be considered in this compatibility determination with regard to lands under Section 22(g) of ANCSA [50 CFR 2521(b)(1)(iii)], but

is considered in evaluating effects of Koniag's activities on the interest the Service is acquiring via the Conservation Easement.

Description of Use:

(a) What is the use?

The Conservation Easement (Appendix A) provides for a variety of uses by the public and Koniag during the initial 10-year term of the agreement, and potentially extending for a second 10-year term. Any future sale of these lands in fee to the United States would be at the sole discretion of Koniag.

The Camp Island Limited Development Easement (Appendix B) runs in concert with the Conservation Easement and defines use associated with Koniag's rights to develop its lands on Camp Island, a 55-acre island on Karluk Lake. A temporary version of the limited development easement prevails for the term of the Master Agreement, but would be replaced by a permanent limited development easement if Koniag decides to sell lands covered by the Conservation Easement to the United States in fee.

Key elements of use in the Conservation Easement:

General

-Prohibits a wide range of activities by Koniag, the United States and the State which would be detrimental to fish, wildlife and habitat [Sections 3 and 4(f)].

- Provides unlimited access by U.S. Fish and Wildlife Service (FWS) and Alaska Department of Fish and Game (ADF&G) for fish, wildlife and habitat monitoring and research [Section 4(a)].

- FWS has the responsibility to provide enforcement of regulations and management of public use at approximately the same level it applies on refuge lands.

- Establishes a management group consisting of representatives of FWS, the State and [Koniag](#) to deal with issues related to their interests (Section 9).

- Regulations applicable to the refuge in 50 CFR are made applicable to the rights acquired by the United States on lands covered by the agreement [Section 5(a)].

- FWS will also have responsibility to manage public use on Koniag lands along the Karluk River below the refuge boundary to the extent authorized by the Master Agreement and pursuant to a Cooperative Management Agreement to be negotiated between Koniag and FWS under the provisions of ANILCA Section 304(f) [Section 5(a)].

Public Use and Access

- Provides FWS the right to authorize public access for purposes permissible on National

Wildlife Refuges subject to applicable State fish and wildlife regulations [Section 4(b)].

- Requires a FWS-managed and enforced permit system for public use along Karluk Lake and River. Allocation between guided and unguided public use is required [Section 5(b)].**
- Requires a study to determine acceptable levels of public use and qualifications and operating standards for the required permit system [Section 5(c)].**
- Establishes an interim limit on public use during the king salmon season (June 10 - July 15) of 70 visitors per day on the Karluk River until the public use study is completed [Section 5(d)].**
- Requires FWS, subject to availability of funds and personnel, to enforce regulations on the 17(b) easement between the Portage on Karluk River and Larsen Bay and either seek a less environmentally damaging route for the easement or make trail improvements to minimize environmental degradation [Section 5(g)].**

Koniag Reserved Rights - Cabin Management

- Koniag reserves the right to manage their five existing cabins along the Karluk River [Section 6(a)], including the opportunity to lease them or grant a concession for their management.**
- Koniag is required to replace or remove the two cabins on the east side of the Karluk River at the Portage [Section 6(a)].**
- Establishes standards for cabin management and associated habitat protection [Section 6(a)].**
- Koniag may relinquish and FWS will accept cabin management responsibility [Section 6(b)].**
- Limits numbers of cabins to five, with provision for replacements in kind and FWS approval of any alternate sites [Section 6(d)].**

Koniag Reserved Rights - Uses

- Reserves the operation of a bear viewing program in the Thumb River drainage [Section 7(b)].**
- Extends closure of Conservation Easement lands at the Thumb River [Section 7(b)].**
- Reserves the exclusive right to grant concessions for fish, wildlife and wild land activities along Karluk Lake and River subject to standards established pursuant to the agreement [Section 7(c)].**
- Reserves the right to operate one seasonal camp along each of the Karluk and Sturgeon rivers. Client limits are prescribed and access by helicopter is prohibited [Section 7(c)].**
- Reserves a subsistence priority for residents of Karluk and Larson Bay, including the right to travel by traditional means on Koniag lands within the Conservation Easement [Section 7(d)].**

- Reserves archeological materials and the right to excavate [Section 7(e)].

Key elements of use in the Camp Island Limited Development Easement:

- Authorizes construction and use of a wilderness lodge operation limited to a 6-acre area with no more than 30,000 square feet of facilities [Section 5(a)].
- Client use is limited to up to 28 per day in the first ten years and 40 thereafter, plus staff [Section 5(b)(i)].
- Clients' uses of the easement property are limited to fish, wildlife, and wild lands-oriented activities or archaeology [Section 5(b)(ii)].
- The use of jet skis, airboats, and helicopters is prohibited. Motorboats are limited to 100 horsepower [Section 5(b)(ii)].
- Koniag reserves archaeological rights [Section 6].

(b) Where would the use be conducted?

Intended use would occur principally on Koniag, Inc. ANSCA 22(g) lands (surface estate lands) within the exterior boundary of Kodiak National Wildlife Refuge. Specifically use would occur within approximately 57,897 acres of habitat in the Karluk and Sturgeon drainages important for a variety of Exxon Valdez oil spill (EVOS) injured fish, wildlife and services plus other nationally significant natural resources. Additional use may occur on adjacent refuge lands in the Karluk and Sturgeon and other refuge drainages.

(c) When would the use be conducted?

Use would be conducted upon implementation of the "Master Agreement," start date October 15, 2002. Use would be for a ten-year term (Primary Term), which may be extended at the option of Koniag for an additional period of 10 years (Secondary Term). During this term(s) public [use is](#) expected to occur primarily during the period of June through October annually.

(d) How would the use be conducted?

Use would be conducted in accordance with stipulations identified in the "Conservation Easement," the "Camp Island Limited Development Easement" and stipulations identified by the Refuge relating to use from Koniag's clients housed at Camp Island. In addition, an intensive study will be initiated by January 1, 2002 to determine acceptable levels of public use and operating standards for a required permit system. Use on refuge lands by clients of Koniag or its concessionaire would be considered guided and thus would require a refuge special use permit.

(e) Why is the use being proposed?

Use is being proposed as an integral component of the Master Agreement to 1) provide public access to lands not previously available to the general public for compatible fish- and wildlife-dependent activities; 2) ensure that areas covered by either easement are maintained predominantly in their natural condition; 3) protect the subject lands from sale or further development except as provided for by the Master Agreement; and 4) provide Koniag, its shareholders and residents of Larson Bay and Karluk economic opportunities related to compatible eco-tourism activities.

Availability of Resources:

One of the key elements in the Conservation Easement is establishment of a management group consisting of representatives of Koniag, FWS and ADF&G to deal with issues related to their interests, including management of wildlife and fisheries (Section 9).

Current refuge personnel consist of a refuge manager, assistant refuge manager and a twelve person biological, maintenance and clerical staff. It is expected that increased use due to implementation of the Easement(s) would result in a moderate increase in management costs. Under terms of the Conservation Easement, the Refuge would be responsible for the following specific activities. 1) Provide enforcement of regulations and management of public use at approximately the same level that it applies to Refuge lands. 2) Conduct a study to determine acceptable levels of public use on easement lands. 3) Develop and implement a permit system to manage the level of use identified by the carrying capacity study. 4) Conduct a study to determine the number of persons that can be accommodated by the bear viewing program at the Thumb River.

Funding has been made available from the EVOS criminal settlement (restitution funds) to meet short term needs for personnel and funding to complete the required studies related to public use and evaluation of the Thumb River bear viewing program. These activities would be expected to involve approximately 4.0 full-time equivalent (FTE) staff for the duration of the studies and cost no more than the \$460,000 set aside for these purposes by the EVOS Federal Policy Group.

As described in Section 5(b) of the Easement, anticipated availability of funding to support any given level of public use will be one of the factors considered in establishing the permit system. It is expected that some modest increases in personnel and funding to conduct activities related to law enforcement, as well as permit management for guided and unguided users, would be required over the long term. These activities would be expected to involve approximately 2.5 FTEs and cost approximately \$110,000 annually, starting in approximately three years. These needs can be met through phased approval of projects already proposed for Kodiak Refuge via the Refuge Operating Needs System, a nationwide system set up to identify and prioritize funding and staffing needs on units of the National Wildlife Refuge System.

Anticipated Impacts of the Use:

Biological Resource Background:

The Koniag lands are located along the coast and inland waterways on the west side of Kodiak Island, Alaska. The area encompasses a broad diversity of land forms including mountains, hills, plateaus, rivers, streams, lakes, and coastline within the exterior boundary of Kodiak National Wildlife Refuge. The vast majority of Koniag's lands are in the Karluk River drainage and the Sturgeon River drainage. These lands are part of a large, intact ecosystem which provide multi-million dollar commercial, subsistence, and recreational benefits to the local economy and the State of Alaska. The extraordinary value of the area to fish and wildlife stems from clean and highly productive aquatic and marine environments. Vegetation is comprised mainly of maritime tundra, muskeg, some deciduous woodlands, shrub lands, and grasslands. The area contains one of the highest density of brown bear found in the world and genetically unique fish stocks and plant species occur within the easement area due to the absence of Pleistocene glaciation.

Karluk River Drainage

The 611 square kilometer Karluk River drainage (Figure 2) consists of the mainstem Karluk River and Karluk Lake. The 39.5 square kilometer lake is fed by numerous tributaries. Within the lake basin there are two major terminal tributaries, the O'Malley and Thumb river systems, which drain into the southern parts of the lake. Both Thumb and O'Malley have smaller lakes within their respective drainage. In addition to the terminal tributaries of Thumb and O'Malley, there are eight significant lateral tributaries flowing into the lake from the east and west slopes of the drainage. The Karluk River flows from the north end of the lake in a north-northwest direction for approximately 34 km to Karluk Lagoon where the village of Karluk is located. There are five tributaries which flow into the mainstem river at various locations downstream from the lake outlet. The mainstem river from the outlet downstream to the Portage area (24.8 km) is characterized as broad and shallow with numerous riffle areas. The mid-section or Portage area is much deeper and slower moving, which provides access for float equipped aircraft. The river below Portage can be described as a continuous succession of riffle areas and shallow runs down to the lagoon.

Karluk drainage consists of aquatic and terrestrial habitats that support one of the highest densities of brown bear ever recorded; 40 brown bear per 100 square kilometers (Barnes and Smith 1998). Although brown bear are found throughout the drainage, extremely high seasonal concentrations of animals are found in Thumb and O'Malley/Cascade creeks, the lower reaches of all lateral tributaries, various shoal areas of the lake shoreline and the lake outlet downstream for approximately 1.5 miles. Seasonal distribution is dependent upon the temporal and spatial distribution of spawning salmon and the availability of berries during the late summer.

Historically, the Karluk drainage has supported the densest and most productive population of nesting bald eagles on Kodiak Island. One hundred sixteen (116) pairs of bald eagle nested within the area, with most nesting concentrated in the vicinity of the Karluk Lake shoreline. Harlequin ducks utilize both the lake and river environment. Surveys conducted in the Karluk watershed between 1994 - 96 resulted in an estimated 18 - 25 pairs using the area for nesting. River otters are

widespread throughout the drainage with sizeable populations, but the total population is unknown. Otters are especially active within the lake environment around Camp Island and the upper section of Karluk River. Sitka black-tail deer are found throughout the drainage.

This unique drainage hosts all six species of Pacific salmon (including steelhead) as well as rainbow trout. In addition, large numbers of Dolly Varden and Arctic char are also found in the drainage. The Karluk steelhead population, estimated to range between 4000-11000 fish in 1995, is one of the largest and most productive found in Alaska. Starting in late May, with the return of sockeye and chinook, spawning salmon are prevalent in the drainage through the month of January the following year when coho complete their spawning activity. In an even year there have been escapements of pink salmon that have reached 2.0 million fish. Overall the total escapement of all species of salmon into the system can reach or exceed approximately 3.0 million fish. The total numbers of Dolly Varden and char using the system is unknown, but is generally estimated by managers to exceed one hundred fifty thousand fish.

Of particular interest are the Karluk sockeye because the early and late runs are distinct. Total escapement can reach approximately 1.0 million fish. The Karluk is one of the few sockeye systems in Alaska that has both an early and late run of sockeye. These early and late runs have distinct genetic characteristics and the productivity of Karluk for sockeye, per unit area, has been estimated to be one of the highest of any sockeye system in North America.

The Karluk River is the most productive sockeye and pink salmon system in the Kodiak Management Area. Between 1998-2000, commercial fisherman harvested 0.7-1.1 million sockeye and 1.0-6.0 million even-year pink salmon returning to this drainage, which yielded an ex-vessel harvest value of approximately 4.9-7.3 million and 0.5-3.2 million dollars respectively.

The Karluk River drainage is a highly popular destination for flight-seeing and bear viewing. Koniag Inc. operates a bear viewing program on the Lower Thumb River in association with a remote camp located on Camp Island in Karluk Lake. Some of the unguided visiting public utilize the lateral tributaries on Koniag lands including the lake outlet for bear viewing. Unguided bear viewing opportunities in Karluk, that are not located on Koniag lands, are available at Upper Thumb River, Meadow Creek, Cascade and O'Malley river drainages. The O'Malley and Cascade river drainages are currently closed to public access by regulation from early July through late September to minimize displacement of bear feeding activity, but public access is open after the end of September and bear viewing opportunities are still available in these areas.

Sportfishing opportunities for chinook salmon, coho salmon, and steelhead populations in the mainstem river consistently attract the largest annual concentration of visitors within the Refuge boundary. The 10-year average number of angler days on the entire drainage including the lagoon is estimated at approximately 5,790 (Schwartz, ADF&G per. comm.). It is estimated that approximately 50 - 70 percent (2,890 - 4,050 angler days) of this use occurs above the lagoon during the king salmon season in June and July.

Island residents and non-residents hunt Sitka black-tailed deer and brown bears on Koniag and Refuge lands within the drainage. Several hunting and fishing guides have established operations on lands within the drainage and although recreational use is growing rapidly, accurate information

on total numbers is unknown. Overall, with the exception of the Thumb River bear viewing program based from Camp Island, most of the visiting public use is concentrated on the mainstem river. Large seasonal concentrations of sport fishermen frequent the "Portage area" and downstream into the lower reaches of the river. There are five public use cabins located on the mainstem river. One cabin is located at the lake outlet with the remaining four at the "Portage area." All cabins are owned and administered by Koniag, Inc. There is an established trail from the head of Larsen Bay overland to the "Portage area" covered by a 17(b) easement across Koniag land. This trail is utilized mainly by residents of the village of Larsen Bay and guests of lodges located in Larson Bay; transport is by foot or motorized all terrain vehicle.

Many of the lands within the drainage are primary subsistence harvest areas for Karluk and Larsen Bay village residents. Archaeological sites are found extensively throughout the drainage particularly on the southern of the lake near O'Malley, the Portage area and the lagoon.

Sturgeon River Drainage

The 170 square kilometer Sturgeon River drainage consists of the main stem river which flows from its headwaters in the refuge for approximately 28.3 km to the Sturgeon Lagoon. The south fork tributary of the Sturgeon flows for approximately 8.2 km prior to joining the main stem river 12.8 km above the lagoon. The lower 21 km of the mainstem and 2.6 km of the south fork are located on 22(g) lands administered by Koniag, Inc. (Figure 3). The Sturgeon is characterized as a stable, low gradient system with numerous shallow riffle areas in the upper reaches. The lower river, below its confluence with the south fork, is slower moving with large meanders which provide excellent holding areas for salmon. The lower section of the main stem above the lagoon consists of shallow broad riffle areas and shallow runs. Access to the Sturgeon River is via the Lagoon with float equipped aircraft or overland into the headwaters by foot from the Karluk River Portage area or Barnaby Lake within the Karluk drainage.

The Sturgeon drainage consists of aquatic and terrestrial habitat that support large seasonal concentrations (>40) of brown bear which target on spawning chum salmon in the lagoon and upper reaches of the mainstem river. Most (>90%) of the bear concentration occurs during mid-July to early-August in the upper reaches where shallow water is more conducive to catching spawning chums. Some bears fish on pink salmon in the lagoon, but at a lower density than that observed in the upper river. Overall density of bears outside of the seasonal concentrations is estimated at approximately 23 brown bears per 100 square kilometers (Barnes and Smith 1999).

Bald eagle nesting in the Sturgeon is estimated to be approximately seven (7) pairs. Large seasonal concentrations (>100) of eagles utilize the lagoon area and the upper river for feeding on chum and pink salmon during the months of late June through August. Harlequin ducks are found on the mainstem river in limited numbers (<10), but large numbers (>50) utilize the lower lagoon intertidal environment during most of the year. River otters are known to utilize the area, but the total population is unknown. Sitka black-tailed deer are found throughout the drainage.

Fishery resources in the drainage consist of chum, pink, and coho salmon, steelhead and Dolly Varden. The run of chum salmon in the river is unique to the Kodiak Archipelago in that these fish start entering the system in early to mid-June compared to other Kodiak chum stocks which start

entering the rivers in mid-to-late July. Historical estimated escapement of spawning chums has ranged from approximately 20,000 -151,000 fish. The estimated escapement of pink salmon in 2000 was approximately 350,000 fish. Escapement of coho salmon ranges from 3,000 - 6,000 fish. The number of steelhead has been estimated to range between 600 - 900 fish. Because of its limited access, the Sturgeon River drainage receives much less public use than other nearby systems such as Karluk. Current use on these Koniag lands is mainly by guided and unguided bear hunters during the spring and fall bear hunts. Some limited amount of deer hunting occurs out of the lagoon area. In addition, there has been a guided sport fishing camp on the lower river above the lagoon which targeted on fishing for coho salmon and steelhead in the fall.

Biological and Public Use Impacts:

As described previously, this document examines those aspects of Koniag's use associated with implementation of the Conservation Easement and Camp Island Limited Development Easement which may occur on adjacent refuge lands, may indirectly affect resources on refuge lands, or may affect interests acquired by the United States via the Conservation Easement.

Karluk River and lakeshore - Within the Conservation Easement lands there would be no additional permanent structures associated with public use beyond those presently existing; currently one cabin at the outlet of Karluk Lake and four cabins on the Karluk River near the Portage area. Under terms of the agreement, public use would initially be limited to a maximum of 70 people per day within a 1/2 mile either side of the mainstem Karluk River. This limit would be in effect for the time period June 10 - July 15, which corresponds to the king salmon sportfishing season (2450 use days). No limit is currently proposed outside of this time period. These use allocations would be in effect only during an interim period until a comprehensive public use study could be completed that would define use levels consistent with Easement purposes.

In addition, there may be one seasonal camp on the Karluk lakeshore within 1/2 mile of the shoreline, which could add 420 use days on Easement lands along Karluk Lake. Alternatively, if this camp were located within 1/2 mile of the Karkuk River, there would be no increase in use above the maximum 70 users per day described above. The location of such a camp would have to be approved by the Refuge Manager, unless it were to utilize one of the existing cabins in the Portage area.

Overall, during the interim period, the amount of public use associated with the Conservation Easement during the king salmon sportfishing season is expected to remain at the lower end of the range observed in the past 10 years and not increase significantly. Public use outside the king salmon season is not expected to increase significantly beyond the range (1,790 - 2,900 use days) estimated for the past 10 years.

Establishment of a seasonal camp along the Karluk lakeshore in close proximity to the lake outlet cabin, which is also used by the public, could increase bear/human interaction at the outlet. This would be especially likely after July 15 when bear feeding activity increases below the outlet area. The increase in bear /human interaction could displace some bears or result in a Defense of Life or Property (DLP) kill. These actions would potentially affect refuge resources since these bears could also have a significant part of their home range on the refuge.

Locating the seasonal camp at a strategic distance from the outlet cabin or utilizing the outlet cabin as a seasonal camp would decrease the concentration and density of human use and thus reduce any potential effects on those bears or portion of the bear population that use the refuge as part of their home range. Since the seasonal camp could have up to 12 clients per day, some additional use beyond what is currently being observed on refuge lands at Meadow Creek and in the O'Malley and Cascade drainages (outside of the closed period), would likely occur. Operation of a seasonal camp from one of the locations specified above would not be expected to have any significant short or long term impact on refuge resources by displacement of bears or DLP mortality. This conclusion is predicated on the assumption that wildlife viewing would be conducted under conditions that did not displace bears and that clients would maintain a prescribed distance from any active bald eagle nests along the lakeshore.

Seasonal camp activity in either the Karluk or Sturgeon drainages would require a refuge special use permit and operations plan as is currently required for all commercial activities on the refuge.

Sturgeon River - Due to the difficult access to the Sturgeon River, the seasonal camp in this drainage would likely be located on the lower river below the forks. This would place the camp a significant distance downstream from the high density bear feeding area in the upper river. This camp would not be expected to result in displacement or DLP mortality of bears on refuge lands. In addition, the camp would not be expected to impact nesting bald eagles if clients maintained a prescribed distance from any active eagle nests. Overall use in the Sturgeon would not be expected to have any significant short or long term impact on refuge resources.

Thumb River - Operation of a structured bear viewing program on Easement lands in the Lower Thumb River is projected to be operated as in previous years, with bear viewers utilizing approximately 90 % of the available viewing days during the summer months. It is expected that the bear viewing program would be operated from approximately June 10 - October 30 and that up to 12 clients would be involved. This program would result in approximately 1,534 client use days (142 days, June 10 through October 30, multiplied by 12 clients per day, at 90% capacity). Data collected in 1996-97 (Barnes and Wilker 1997) suggest that the presence of bear viewers under a structured program had a minimal effect on bears that consistently used the lower river area during summer. This activity would not be expected to have any significant short or long term impacts on adjacent refuge resources.

Camp Island Limited Development Easement - A lodge development is proposed for Camp Island in Karluk Lake as part of the Camp Island Limited Development Easement. This action could displace some bears that periodically utilize Camp Island as part of their home range, but this displacement would be expected to be at a low level and would not affect resources on adjacent refuge lands. Client use of the proposed lodge facility is projected to occur from approximately June 10 - October 30 each year. The number of clients would increase from 28 during the first 10 years (primary period) to approximately 40 thereafter.

As indicated previously, it is expected that up to 12 clients would be involved in the structured bear viewing program at Lower Thumb River. The remainder of the clients would be involved in activities related to fishing, wildlife viewing and other wildland recreational activities on Easement areas or refuge lands within the drainage. They might also be involved in activities related to

archaeological or cultural sites on Easement lands.

Overall the total number of client use days at the lodge is estimated to range from 3,578 use days (142 days, multiplied by 28 clients per day, at 90% capacity) during the primary period to 5,112 use days thereafter (142 days, multiplied by 40 clients per day, at 90% capacity). It is assumed that 1,534 of these use days would be taken up by clients involved in the structured bear viewing program on Thumb River. This would potentially leave an additional 2,044 - 3,578 client use days to be distributed within the drainage. It should be noted that Easement terms require that any lodge guests visiting Karluk River during the time period of June 10 - July 15 would be deducted from the maximum number of users allowed on the river. For example, if 10 lodge guests had permits to use the river, 60 permits would be available for other guided and unguided users that day.

Given the timing of the various salmon runs in the Karluk drainage, it should be anticipated that overall use levels would vary throughout the summer. Periods of peak lodge use would likely correspond to the timing of the various salmon runs, when both sport fishing and bear viewing opportunities would be prime. However, to be conservative for the purposes of this assessment, we have generally assumed use would be at a consistent 90% of maximum occupancy for the entire season.

In addition to looking at total use days, it may be helpful to think about use on a day-by-day basis. Assume, for example, that the lodge was operating at full capacity on any given day (28 guests) rather than at 90% capacity (25 guests). Bear viewing activities on Thumb River might reasonably account for 12 guests. An additional 10 guests might participate in activities on other Easement areas, such as Karluk River. This would leave up to six guests who might wish to participate in activities on refuge lands within the Karluk drainage or elsewhere. This level of use would be expected to have minimal impact on refuge resources.

Under this scenario, we anticipate that Koniag or their concessioner would request opportunity to use adjacent refuge lands on Upper Thumb River and/or Meadow Creek. In addition, some client activity (day use) might be displaced, subject to valid existing rights, to nearby refuge drainages that offer similar wildlife viewing and fishing opportunities. Current refuge operating procedures for guided day use activities limit the number of clients in any one party to six (which includes guides and assistants). Since implementation of the refuge competitive sportfishing guide prospectus system in 2001, most drainages that offer prime opportunities for sportfishing (Ayakulik, Dog Salmon/Fraser Lake, Little River and Uganik) have been awarded to successful applicants. However, there are no current limits on the number of guided wildlife viewing operations that would be permitted on refuge lands in these areas.

The entire Conservation Easement, including the Limited Development Easement on Camp Island, comes up for renewal after ten years. At this time, the number of guests permitted at the lodge on Camp Island would increase to a maximum of 40 per day. This would be 12 guests more than were permitted during the primary period. While it is difficult to assess impacts this far into the future, several scenarios can be envisioned under which this level of use could be compatible.

During the June 10 - July 15 time period it may be possible to direct additional guests to Karluk River or Karluk Lake shore. As described above, these guided users would count against the

allocation of opportunity outlined in the Conservation Easement. However, completion of the public use study required by Section 5(c) of the Easement may indicate that a higher use level than that originally stipulated in the Conservation Easement may be appropriate. In this case, some additional use days from the lodge could be directed to Easement Lands without any displacement of existing use.

Alternatively, client use prior to July 15 could be maintained at a level consistent with the operation of the Lower Thumb River bear viewing program, the level of use on Karluk River established during the primary period, and the availability of use on adjacent refuge lands. After July 15, additional client use could be directed to the Karluk Lake shore and Karluk River areas.

In addition, the draft revised Kodiak Comprehensive Conservation Plan includes several alternatives that call for development of a structured bear viewing program on refuge lands. If such a viewing program is carried through into the preferred alternative for the final plan and operated from June 10 - October 30, it is projected that this program would accommodate an estimated 852 - 1,704 use days. Use days are calculated based on a client level of 6 - 12 users per day throughout a 142 day period.

In accordance with Section 1307 of the Alaska National Interest Lands Conservation Act, native preference is provided for guided concessions related to bear viewing on refuge lands. If Koniag was successful in obtaining the viewing program, client use from the lodge could be distributed between the bear viewing programs at Lower Thumb River and on refuge lands.

Any combination of the scenarios described above could allow the higher level of use allowed by the Camp Island Limited Development Easement to be compatible. It should be noted that this easement recognizes the potential for uses on Camp Island to affect both Conservation Easement and refuge lands. A cooperative management approach through the "management group" as outlined in Section 1(e) is envisioned.

Impacts to refuge resources associated with the physical development on Camp Island (lodge facilities) pertaining to water quality, waste disposal and fuel handling and storage are not expected to have any significant short or long term impact on refuge resources. This finding is based on stipulations governing Camp Island operations which are supplementary to the Master Agreement (Appendix C).

Fishery impacts - The Alaska Board of Fish sets regulations relating to season and bag limits for sportfishing. Given the healthy status of the fishery resources on and off refuge lands in the Karluk, Sturgeon, and other refuge drainages, no negative impacts on refuge fishery resources are anticipated due to use associated with the Conservation Easement. Impacts to refuge fishery resources associated with the Camp Island Limited Development Easement (lodge operations) may be localized within the Karluk drainage. In particular, Arctic Char which occur within the vicinity of Meadow Creek, O'Malley, and Cascade areas may be heavily fished. Such fishing pressure on a daily basis, even with a catch and release philosophy, might require additional management to avoid having an adverse long term impact on the population.

Impact Summary:

Overall, it is expected that impacts to resources on refuge lands or interests due to use associated with the Conservation Easement will be compatible.

Potential impacts to refuge resources from use associated with the Camp Island Limited Development Easement are expected to be compatible during the primary period (first 10 years). Effects after this time period are more difficult to anticipate and assess. Several operational scenarios are outlined in this compatibility determination that would allow the higher level of use to be compatible.

It is expected that between the recommendations outlined in this Compatibility Determination and the cooperative work of the "Management Group," the purpose of the Easement(s) and the purposes of Kodiak Refuge will be met for the benefit of the resource and the public.

Because the uses outlined in the Master Agreement are wildlife-dependent, provisions for a mandatory 15-year re-evaluation of this compatibility determination apply; see *Federal Register*, Vol.65, No. 202, October 18, 2000; Chapter 2.11(A)(15). This compatibility determination may also be re-evaluated when conditions of use change, significant new information relative to the use and its effects become available, or in concert with revisions to the comprehensive conservation plan. Given the 10-year initial term of the easement, it seems reasonable to conduct the mandatory review in concert with easement renewal.

Public Review and Comment:

A Public Notice soliciting comment on the proposed use was issued in late April 2001 (Appendix D). Comments were accepted for a 60 day period ending June 25, 2001. The notice was mailed to more than 1400 individuals or groups; published in *Anchorage Daily News*, *Kodiak Daily Mirror*, *Daily News Miner*, *Peninsula Clarion*, and *Juneau Empire*; and posted on the FWS regional web site. Reviewers were encouraged to submit requests for copies of additional information on the Agreement by contacting the Kodiak Refuge Manager via phone, fax or electronic mail. Only written comments by electronic or regular mail were accepted.

No public meetings were conducted regarding the Agreement, but a synopsis of the key elements of the Agreement was presented at the Kodiak Fish and Game Advisory Board Meeting in early January 2001. In addition, a short briefing was given to the Citizens Advisory Committee working on the draft "Kodiak Archipelago Brown Bear Conservation and Management Plan" during the spring of 2001.

A total of 10 individuals or groups provided written comments on the Agreement. In general, five of the comments did not support the Agreement fully, four supported the Agreement and one had no concerns or comments. Additionally, four requests for information on the Agreement were processed, but no written response by these parties was received by the refuge.

Public comment on the Agreement is summarized below with a description of actions taken in relation to the comments.

Wilderness: Concerns revolved around an increase in human activity on adjacent refuge lands within the Upper Karluk drainage which has been proposed for wilderness classification. In addition, the decision on the Agreement was characterized as premature and those commenting felt it should be deferred until the revised refuge comprehensive conservation plan (conservation plan) is completed. Other comments indicated support for the Agreement, but suggested that any development be conducted in a manner consistent with the wilderness character of the refuge.

Although the refuge conservation plan identifies a large portion of the refuge (including the upper Karluk and Sturgeon) as proposed wilderness, no action has been taken to date by Congress. Consequently the issue of wilderness is not discussed in this compatibility determination. The revision to the current conservation plan is in progress and one of the issues to be addressed will be how the Agreement will affect public use on adjacent refuge lands. As indicated in this compatibility determination, there are several scenarios that could allow a higher level of use in the Karluk drainage to be compatible with refuge purposes.

Impacts to brown bear: Concerns revolved around the increase in human activity suggesting that this may have a negative effect on brown bear feeding on salmon streams, including concern for possible effects on survival of brown bears in the area. Another comment recommended that FWS should stand back and not interfere with nature. Other comments indicated that Agreement would focus protection on refuge lands due to stipulations in the Agreement.

As a stipulation of the Agreement, the Service is charged with conducting a study starting in January 2002 to determine the level and location of public use that will be permitted on the Conservation property and adjacent refuge lands within the Karluk and Sturgeon drainages. In the interim, specific limits on the amount of public use are outlined in the Agreement. A permit system to manage public use is required by the Agreement. The FWS will also include stipulations for use involving client bear viewing and sportfishing activity in and around Karluk Lake in refuge special use permits. These stipulations will be focused on conserving brown bear feeding habitat in salmon streams and the lake shore areas.

Pollution: Concern was expressed regarding for water quality in the watershed given the proposed increase in human activity. Particular concern was expressed for the potential increase in discharge of human waste and related to boating activity.

Impacts to refuge water quality from lodge operations at Camp Island are not expected to have any significant short or long term effects. This finding is predicated on stipulations addressing water quality, waste disposal and fuel handling and storage which are supplementary to the Agreement (Appendix C). In addition, the Agreement limits allowed horsepower for motorboats and bans use

(Appendix C). In addition, the Agreement limits allowed horsepower for motorboats and bans use of jet skis, significantly increasing protection of water resources from the level of protection possible absent the Agreement.

Subsistence: One comment indicated that subsistence use should be confined to Koniag lands and not allowed on refuge lands. The opportunity for continued subsistence by local residents on refuge lands is one of the purposes of Kodiak Refuge articulated by the ANILCA.

Determination (check one below):

Use is Not Compatible

Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

See Appendix C for stipulations agreed to among the Parties regarding the Camp Island Limited Development Easement.

Justification:

The stipulations in Appendix C were negotiated among the parties as a side agreement to the Master Agreement as a means of ensuring that the lodge development on Camp Island would be compatible.

Signature: Refuge Manager: LESLIE KERK, 7 NOVEMBER 2001
(Signature and Date)

Concurrence: Regional Chief: [Signature] 11/19/01
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation

Date: 15 DECEMBER 2012

ATTACHMENTS:

Appendix A: Copy of the Conservation Easement.

Appendix B: Copy of the Camp Island Limited Development Easement.

Appendix C: Copy of Camp Island Limited Development Easement stipulations.

Appendix D: April 23, 2001 Request for Public Comments on the proposed use.

Appendix E: List of Citations

Appendix C:

The language of the stipulations below was negotiated between the Parties and approved as of June 20, 2001. It was intended that this language be put into some type of format, referred to below as a "letter," that would serve as a side agreement to the Master Agreement.

The activities authorized by the Camp Island Limited Development Easement (the "Easement") which is part of the Master Agreement for Protection of Certain Lands and Resources Between Koniag, Inc., the United State of America and the State of Alaska (the "Agreement") potentially represent a significant expansion of the existing uses and carrying levels of the lands surrounding Karluk Lake. Koniag, Inc. and the United States (the "Parties") as signatories to the Agreement intend that such expanded uses do not have a significant adverse impact on the fish, wildlife, habitat and other resources of the area (either the lands owned by the United States and administered by the Refuge, or those lands owned in fee by Koniag) or jeopardize the overall conservation purposes of the Agreement. Though the Agreement provides major protection for the area's resources, the Parties desire that activities under the Agreement be in accordance with more specific provisions than those included in the Agreement. The Parties believe these stipulations, operating standards and procedures will ensure compatible enjoyment of the area, avoid significant adverse effects to the areas resources and maintain the flexibility to adapt to changing circumstances and new information while allowing Koniag to achieve its economic goals.

This letter is a supplement to the Agreement and establishes certain stipulations, operating standards, and procedures which will apply to Koniag's operations under the Agreement. These standards may be added to or modified by mutual consent of Koniag and the United States as warranted in the future.

Access.

1. From June 16 to August 25, salmon streams flowing into Karluk Lake are closed to access except within 50 yards of the streams' mouth. From June 16 to July 7 access will occur only between 10 A.M. and 4 P.M. Alaska Time. Access restrictions are intended to minimize disturbance to brown bears using the area for feeding.

Camp Island operations.

2. Food will be stored in bear proof containers or structures.
3. Trash will be removed regularly from the Protected Property. Interim storage will be in bear proof containers.
1. All fish and wildlife will be placed in bear-proof storage the same day harvested. By-products from fish and wildlife processing will be removed from the Protected Property or disposed of in Karluk Lake consistent with the directions of the Refuge Manager and any applicable laws.

Fuel handling and storage on Camp Island.

2. There will be a designated fuel off load area with provisions for fuel storage, including heating oil, gasoline and diesel according to applicable Alaska Department of Environmental Conservation and U.S. Environmental Protection Agency requirements.
3. Individual bulk fuel storage tanks must be double walled, have an anti-syphon system and a minimum of five gallon fill containment. A non-gravity feed fuel delivery system from the tanks is required.
4. Drums and other containers of petroleum products will be stored within an enclosed, well ventilated facility with spill decks under the containers.
5. Fuel storage will be located a minimum of seventy-five feet from surface water.
6. Provisions for spill prevention and cleanup will be posted at the facilities and all essential personnel trained to respond to spill incidents.